4

6

8

10

2

## CLAIMS

1. A method for transmitting voice and data traffic in a wireless communication system, comprising:

generating a first preamble channel, wherein the first preamble channel carries information as to a preamble length;

generating a second preamble channel, wherein the second preamble channel carries a plurality of preamble packets and the length of each of the plurality of preamble packets is carried on the first preamble channel; and

generating a traffic channel, wherein the plurality of preamble packets carried on the second preamble channel are each associated with a packet carried on the traffic channel.

- 2. The method of Claim 1, wherein the information as to the preamble length is carried by a two-bit payload.
- 3. The method of Claim 1, wherein the information as to the preamble2 length is carried by a one-bit payload.
  - 4. A method for generating a preamble that is not concatenated to a data subpacket on a traffic channel, comprising:

generating a preamble for transmission on a first non-traffic channel;

4 and

2

4

8

10

generating a preamble length value for transmission on a second nontraffic channel, wherein the preamble length value is associated with the preamble transmitted on the first non-traffic channel.

- 5. The method of Claim 4, wherein the preamble length value is represented by two bits.
- 6. The method of Claim 4, wherein the preamble length value is represented by one bit.
  - 7. An apparatus for generating a preamble information channel within a wireless communication system, wherein the preamble information channel informs a target station of a length of a preamble transmitted on a separate channel, comprising:

a block encoder configured to receive a symbol and to output a plurality of symbols;

a repetition element configured to receive the plurality of symbols from the block encoder and to output a sequence, wherein the sequence comprises a repeated pattern of the plurality of symbols;

a modulation element configured to receive the sequence and to output an in-phase component and a quadrature component; and

- a Walsh covering element for spreading the in-phase component and the quadrature component.
  - 8. The apparatus of Claim 7, wherein the symbol comprises two bits.

2

- 9. The apparatus of Claim 8, wherein the block encoder outputs three code symbols for the two-bit symbol.
- 10. The apparatus of Claim 7, wherein the modulation element performsquadrature phase-shift keying (QPSK) modulation.
- 11. The apparatus of Claim 7, wherein the Walsh covering element uses a2 256-ary Walsh code.
- 12. An apparatus for generating a preamble information channel within a
  2 wireless communication system, wherein the preamble information channel informs a target station of a length of a preamble transmitted on a separate
  4 channel, comprising:

a mapping element configured to receive one bit and to output +1, -1, or 0 accordingly;

a repetition element configured to repeat the output of the mapping element to form a sequence; and

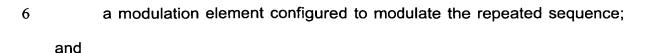
a Walsh covering element for spreading the sequence.

- 13. An apparatus for generating a preamble for transmission on a channelthat does not carry traffic, comprising:
  - a convolutional encoder configured to convolve a preamble sequence;
- a repetition element configured to receive the convolved preamble sequence and to output a repeated sequence;

4

6

8



- 8 a Walsh covering element for spreading the modulated sequence.
- 14. The apparatus of Claim 13, wherein the convolutional encoder is a tail-2 biting convolutional encoder.
- 15. The apparatus of Claim 13, wherein the modulation element performsquadrature phase shift-keying (QPSK) modulation.
- 16. The apparatus of Claim 13, wherein the Walsh covering element uses2 a 128-ary Walsh code.
  - 17. An apparatus for transmitting voice and data payloads in a wireless communication system, comprising:

means for generating a first preamble channel, wherein the first preamble channel carries information as to a preamble length;

means for generating a second preamble channel, wherein the second preamble channel carries a plurality of preamble packets and the length of each of the plurality of preamble packets is carried on the first preamble channel; and

means for generating a traffic channel, wherein the plurality of preamble packets carried on the second preamble channel are each associated with a packet carried on the traffic channel.

channel.

18. An apparatus for transmitting voice and data payloads in a wireless 2 communication system, comprising: a memory element; and 4 a processing element coupled to the memory element and configured to execute an instruction set stored in the memory element, the instructions 6 for: generating a preamble for transmission on a first non-traffic channel; and 8 generating a preamble length value for transmission on a 10 second non-traffic channel, wherein the preamble length value is associated with the preamble transmitted on the first non-traffic